



The Blurb



Newsletter of The Phil-Mont Mobile Radio Club
66 Years of Public Service, 1949 to 2015

Volume 66 Number 3

www.phil-mont.org

March 2015

***The Board of Directors' Meeting is on the 4th
The General Membership Meeting in on the 11th at the Willow Grove
Giant Supermarket 2nd Floor***



Doug WA3DSP gave a great Presentation at the February meeting...



And our President even checked in...
From Florida!

Bob Thomas is back! See page 5
Doug recounts the first 10M AM net! See page 7

Spring: March 20 1st Saturday VE session: March 14

34 degrees in September: OMG! It's soo cold!
34 degrees in February: Ooh, I think I'll wash the car!



<i>The Blurb</i> is published monthly by and for the members of The PHIL-MONT MOBILE RADIO CLUB, Inc., whose purpose is to promote Amateur Radio in general, and Mobile Radio in particular. Copying and quoting is permitted with a credit line. We gladly exchange publications with other amateur radio clubs. Requests should be sent to the Editor: Rick DeVigiliis ND3B@ARRL.net Subscriptions are available to non-members for \$12, addressed to the Treasurer. Labels and mailing: KB3IV Submissions deadline: All copy must be in the hands of the Editor by the 20th of the previous month.		Directors: N3QV(15) W3RM(15) K3HWG(15) WA3KIO(16) KB2ERL(16) ND3B(16) W3STW(A)		Contact Phil-Mont: P.O. Box 404 Warminster, PA 18974 http://www.phil-mont.org Website: Eric N3QV & Andrew KC2PMW For club information: Contact any club officer, or the repeaters listed below. Address or club directory changes and articles for the membership e-mail list should be sent to: KB3IV			
		Sunday Morning Net Schedules • 2 Meter/ 70cm Net..... at 0930L on W3QV repeater • 10-on-10 Net at 1000L 28.393 MHz USB (±QRM) • 75 meter Net at 1020L 3.993 MHz LSB • ARES at 2100L on the W3QV repeater					
Committees Blurb folding: KB3IV & N3GLU Directory: KB3IV Field Day: KC2PMW Fusion Coord: NC3U		Internet: N3QV & KC2PMW Membership: K3HWG Net Control: KB3IV		Program: W3AOK Publicity: W3RM Refreshments: W3AOK Repeater: W3AOK		Scholarship: W3RM Sunshine: N3GLU VE Program: NS3K Welcome: N3UBY Youth: KC2PMW	
All visitors are welcome! The club meets at 7:00 PM on the <i>second</i> non-holiday Wednesday each month except July and August at Giant Supermarket, 315 York Rd, Willow Grove, PA Maps and directions are available at www.phil-mont.org.							
License Examinations are held on the fourth non-holiday Thursday each month at Community Ambulance Association, 1414 E. Butler Pike, Ambler PA 19002 Registration begins at 7:00 P.M. Applicants should contact Jim McCloskey NS3K at 215-275-2979 or jmccloskey@msn.com for the latest information.							
		Club Stations W3QV/R: The Jim Spencer Memorial Repeater System Ridge & Port Royal Avenues, Philadelphia, PA Trustee: W3RM 147.03 MHz + PL 91.5 Hz 444.80 MHz + PL 186.2 Hz Reach us on EchoLink through W3QV-R W3AA Trustee: WU3I W3EM: Field Day/special event station Trustee: N3QV					
The Officers President: WA3GM Greg Malone wa3gm@yahoo.com Vice President: W3AOK Bill Popovic w3aok@verizon.net Treas: KB3IV Ed Masarsky kb3iv@comcast.net Secretary: WU3I Steve Hoch steven.hoch@verizon.net							

The Prez Sez ...



Happy Winter Phil-Mont from the Sunshine State where it may be sunny but we have had our share of cool and also COLD days so far this month. As a matter of fact we have had record lows here in Cocoa Beach and it was 34 degrees here this morning ... you may now stop feeling sorry for me.

In all seriousness please take the proper precautions at home during this unusual cold snap. Make sure heaters are not blocked and exhaust pipes are not cracked and water lines are heat taped in spaces where needed. Carbon Monoxide and broken pipes are no fun as I found out last night when I received a call from home to tell me we had no water as one of the lines was frozen and cracked.

During my stay this year we were able to attend The Orlando Hamcation for the first time. I had a great time there and met up with some friends that I had not seen in a while to include members of the ROOSTERS (on 3.990). I also talked to ARRL President Kay Craigie at the Hamcation. She says to say hello to everyone at Phil-Mont and is glad the club is doing well. I have attached some pictures from the Orlando Hamcation.

I have also been fortunate enough to be able to work remote from my condo in Cocoa Beach back through my home Rig. I was able to work the K1N guys during the Navassa DXpedition several times along with many other stations on CW, SSB,

March 2015

PSK31 and JT65 and the Phil Mont 10 Meter AM net on Tuesday night. I was even NET CONTROL for the Phil-Mont 75 meter Phone Net last Sunday while remote in Florida.

Thanks to our own Doug Crompton WA3DSP for the great presentation on the All Star network he presented at our February meeting. Much to my surprise Doug actually used me as an example of how the All Star Network operates when he had me call in thru Echo Link and say hello to everyone at the meeting via one of Dougs All Star nodes. GREAT JOB Doug!

If anyone has any suggestions for a speaker or would like to speak at one of our meetings please let any of the club officers or board members know. Your input is vital and we welcome all suggestions.

See you all when I get back.

73, Greg WA3GM

Phil-Mont Birthdays & Tidbytes

March Birthdays

01 John Furlong – KC2TUT
03 Elaine Spencer (Honorary Member)
06 Tina Furlong (XYL KC2TUT)
Bryan Kobe - KB3WHR

09 Fayette Toren (XYL N2MT)
12 Lamonte Cuff - KC3CIV
13 Rosemary Canuso (XYL N2ATB)

15 Dottie Scialdone-Maresca - K3YPH

22 Lee Adams - KB3YFG
24 John Wright – K3CHR
27 William (Red) MacKenzie - W3RED
28 Barbara Stein (XYL KB3AFH)

Tony Canuso – N2ATB
30 Robert H. Rose – N3TWO
31 Chris Ruhl - N3GBJ

MEMBERSHIP STATS

At press time P.M.R.C. had:

90 Full paid members

8 Family members

1 Youth member

1 Honorary member

3 Pending member



***The first Saturday VE test session is on the
14th at 09:00***

***The VE Thursday evening session is on
the 26th this month.***

As always, many thanks to our VE team!

From the Secretary

General Meeting Minutes 2/11/2014

W3AOK announced the change of meeting time to 7:00 pm start time beginning with the March general Meeting.

This was the only business at the meeting. There were 20 members and 3 guests in attendance (by the sign in sheet).

The program of the evening was presented by Doug Crompton WA3DSP. The subject was Allstar VOIP linking and the use of the Beagle Bone Black Micro computer system to make a repeater controller.

Board of Director Meeting Minutes 2/4/2015

W3AOK opened the meeting at 8:00PM exactly. In attendance were KB3IV, WU3I, NC3U, K3HWG, W3STW, W3GBA, WA3DSP and KB2ERL. KB3IV gave the treasurers report we had dues and Auction income totaling \$573.00 for the month. K3HWG made a motion to track contributions to the Contributors fund as a separate line item in the accounting. Seconded by W3STW carried unanimously.

Fort Washington state Park reservations have been made for Site A & B 2/4/2015.

There will be one scholarship this year the W3IIM Memorial Scholarship.

Scholarship year runs from 2/1 to 2/1 annually.

W3AOK made the motion to have a single \$1000 scholarship for 2015, K3HWG seconded, motion passed.

W3STW made a motion to accept Treasurers report as presented. KB2ERL seconded; carried unanimously.

REPEATER

K3EUI has reported a voting issue and this will be addressed ASAP by the repeater gurus.

Adjustments at the repeater with stations in the field call for coordination of assistants. Stay Tuned.

No word at this time from Yaesu on the return of the DR1X repeater for digital on 444.8.

You are reminded the 147.165 repeater is on digital full time give it a try.

Echolink audio had been reported as low this has been fixed by transcription time of the minutes.

W3STW made a motion waiving the reading of the Minutes of January's meeting. K3HWG seconded Passed.

OLD BUSINESS

KB3IV has updated ARRL with the current club officers. Special Service Club info will be updated and renewed.

The Digital Archive Project is still looking for the BLURBS from 1971 thru 1976 these will complete the full history of the BLURB onto digital format. Currently there are over 650 photos and 4000 – 5000 pages of text. Many thanks to WA3DSP for taking on this project.

NEW BUSINESS

1. Membership: K3HWG has received membership materials from KB3SJT
2. K3HWG made a motion to change Board Meeting start time to 7:00PM starting March. KB3IV seconded; motion passed.
3. K3HWG made a motion to change General meeting start time to 7:00PM. KB3IV seconded; motion passed to go in effect April.

K3HWG made a motion to adjourn meeting, W3AOK seconded. Motion Passed 9:15PM

Respectfully submitted, Steve, WU3I

SWITCH-MODE POWER SUPPLIES

Use with care

Bob Thomas, W3NE

Plug-in low voltage power supplies, affectionately known as “Wall Warts” (W/W), have been in use for decades. They are used to power all manner of small appliances and electronic equipment, from can openers to amateur HTs. A conventional W/W consists of a transformer and silicon diode rectifier encapsulated in a plastic housing with molded-in contacts that match the domestic power distribution system. Rectified DC (or AC direct from the transformer secondary in some instances) is fed over lightweight cable through a miniature coaxial or proprietary connector to the device. W/W transformers are designed with high leakage reactance that causes the core to saturate and limit secondary current in event of a short circuit on the output. This provides automatic protection without need for a fuse.

Use of a W/W instead of an on-board power supply isolates dangerous utility line voltage from the device to enhance personal safety and simplify product design for lower cost. It also relieves the device manufacturers of responsibility for obtaining Underwriter approval for each individual type of equipment they produce and simplifies to some

degree, international sales. Finally, W/W's are manufactured in large volume by companies that specialize in the field, resulting in economy of scale that minimizes cost. Everybody wins, or at least they did until recently

Rising commodity prices, new technology, and changing market conditions have merged to cause a radical departure from the conventional (transformer-based) W/W to the new lightweight plug-in switching-mode adaptors now supplied with cell phones, tablet computers and low-power ham gear. For instance, a radical increase in cost of copper has made elimination of 50/60 cycle transformers the focus of cost reduction; remove the transformer and reduce the cost! There also has been a major change in international marketing strategy throughout the business community which now places high value on products that can be shipped anywhere in the world without individualizing their accessories. Both of these contemporary requisites are fulfilled by recent development of inexpensive compact switch-mode power supplies (SMPS).

A typical SMPS provides constant DC output level with no adjustments required to accommodate line voltages ranging from 100V/60 cycles (Japan) to 240V/50 cycles (many islands and African countries). In this article we are referring to the SMPS in Wall Warts, not heavy duty switching power supplies used with high power transceivers and solid-state linear amps. SMPS W/Ws are mass-produced using a miniature transformer, low cost integrated devices, and a few auxiliary components on small pc boards housed in a plug-in plastic case typically half the volume and one-quarter the weight of a conventional W/W. What's not to like? On the surface, nothing but there are some things that hams should be mindful of when using an SMPS in the shack. Before getting into those issues, however, it's necessary to understand the basic operation of an SMPS

Figure 1 is the block diagram of a high quality SMPS W/W. Line voltage is rectified and fed to a variable duty cycle switch operating around 100 kc. Switch output drives the primary of a stepdown transformer. Low voltage from the transformer secondary is rectified and filtered to become the

W/W DC output. In order to ensure constant output voltage under all line and load conditions, output DC is compared to a fixed DC reference voltage. Any difference between DC output and reference levels is fed back through an opto-isolator (an LED optically coupled to a photo-sensitive resistor) to modify the duty cycle of the switching signal to maintain correct transformer secondary voltage.

The transformer in the forward path and opto-isolator in the feedback path completely isolate output DC from the AC line. Note there are also separate grounds on the input and output that further isolate those two circuits. Additionally, because the transformer operates at about 100 kc. it can be inexpensively made with a very small core and windings. All those basic design elements add up to a compact and low cost W/W compared to the conventional type. So what's not to like about these proliferating W/Ws in the ham shack?

Something not shown in the block diagram is RFI filtering in the line input, and electromagnetic shielding around the whole assembly. Therein lay the two most potent sources of problems when an SMPS W/W is used in the vicinity of communications gear. Most SMPS power supplies intended for high power applications in ham shacks have (finally) incorporated sophisticated AC line filtering and wave shape control to minimize conduction and radiation of RFI. That's not necessarily the case with many SMPS W/Ws on the market. Once HF switching artifacts get impressed on the AC line it becomes an antenna that broadcasts high level hash in competition with desired signals. Conducted hash also can directly enter sensitive equipment powered from the same AC distribution branch. A simple way to get a rough indication of W/W RFI suppression is to hold a portable SW receiver near its output cable while it is under load. The most practical approach would be to just listen to weak off-air signals on the bands you use while plugging-in and unplugging the W/W.

Not all SMPS W/Ws are created equal, as I found out from experience. My LED desk lamp uses an SMPS W/W for power. Giving it the SW receiver test more-or-less cleared the SMPS module, its

power cable, and the lamp for RFI. Although the portable receiver detected low level interference near the lamp's power cable, it was not enough to be noticeable in normal receive operation. I bought a couple of very compact SMPS W/Ws for \$2.25 each from a domestic vendor on eBay to find out how they would perform. They are representative of many new low cost SMPS W/Ws flooding the market, so it's worthwhile to understand what they can and cannot do. They are rated for 5VDC/1Amp output at the USB connector with line voltage between 100 and 240VAC. Figure 2 is a photograph of internal components of one that has been cut open alongside an unmodified unit at right. The miniature isolation transformer, its core covered with yellow tape, is near the middle of the left hand PC board. Some idea of scale can be judged by the USB connector and the unmodified sample, which is only 1-inch on each side. Compared to a high quality SMPS, it's obvious this one has minimal complexity and that's the way it performs! Even when lightly loaded, hash radiated by the USB cable drove the portable SW receiver to S9++ and it was almost equally as obnoxious in the station receiver at 3750 kc. In contrast, a Canon USPS camera battery charger emitted no RFI.

Even though the eBay loser will not be used while W3NE is in operation on HF, it's instructive to see in Figure 2 how many parts are crammed into its small housing. Higher quality SMPS W/Ws are necessarily larger because they have many more and larger ICs for better performance and they generally have better RFI filtering. The moral is – once again – you get what you pay for. In the case of an SMPS in a ham shack, only the very best should be in operation while you are on the air. Given trends in commercial markets these days, avoiding the SMPS will become more and more difficult but you will be ahead of the game knowing the potential risks some of them present. Be sure to check out all SMPS devices in your home, including the ones concealed in the base of line-powered LED light bulbs.

Philmont 29.493 AM net

We held our first 29.493 AM net on Tuesday December 16 at 9 PM. Those participating were WA3KLR, WA3GM, W3AOK, K3GBA, NY3J, W3RZY, W3STW, and WA3DSP net control. Most stations reported readable signals. We generally favor vertical polarization and stations using horizontal antennas were much weaker. I plan to install a new antenna for the net. I am currently using a ground mounted Butternut which is a good antenna but not really suited for local ground wave communications. A quarter or half wave vertical mounted as high as possible would be the best choice. Homebrew antennas are easy to build for 10 meters and there are a number of commercial models available like the Cushcraft Ringo. I hope to hear more stations on the net in the future. The net will meet every Tuesday night at 9 PM after the 2 meter digital net. We usually listen prior to net time so you may hear activity before 9 PM. We may also be experimenting with SSB and FM on 29.493.

For those club members that are not familiar with 29.493 MHz and why that frequency was used a little history is in order. When the club was first formed in the early 1950's it was decided to use 10 meters for the club frequency. During that time there was a wealth of surplus World War II crystals available. A large lot of 7373.333 kHz. crystals was acquired and it just happened to multiply to 29.493 and thus the original PMRC frequency was born. This was well before the advent of repeaters and even CB. Club members used whip antennas on their cars and often homebrew or modified commercial radios. The ten meter frequency was abandoned in the 1970's when Philmont went to 2 meters and the area around 29.493 was reserved for satellite communications. We are trying to bring back just a little of that nostalgia.

Doug, WA3DSP

CAPTIONS:

Figure 1. Block diagram of a typical low power SMPS.

Figure 2. Components of an inexpensive SMPS next to an unmodified unit.

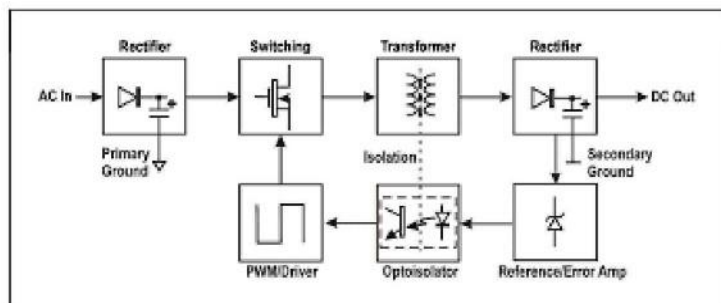


Figure 1 Block Diagram

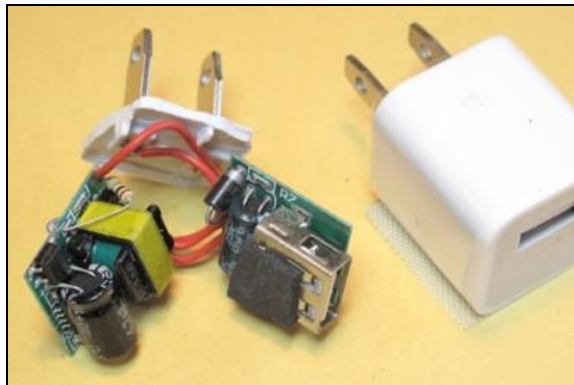


Figure 2 Interior

Hey Greg, how was Florida?



The following radio amateurs have applied for PMRC membership:

Ronald L. Rubin K3RON (Ron)
Janet L. Souza KV4ZM
Jenkintown, PA
(Both Extra class, ARRL members, Family membership)

Charles F. Farrell (Chuck) AB3WD
Wayne, PA
Extra class, ARRL member

March at Phil-Mont

- 1 Sun WU3I
- 8 Sun K3EUI
DST Begins
- 11 Wed General Meeting
- 14 Saturday VE Session
- 15 Sun KB3IV
- 20th Spring!
- 22 Sun W3STW
National Goof Off Day
- 26 Thur Evening VE Session
- 29 Sun N3QV

***Note the New net -
9:00PM Tuesday night on
29.493MHz AM mode***

***Don't forget the ARES net on Sunday nights and
the Digital net on Tuesday nights.***

And don't forget:

- 14th Einstein's Birthday
3.14159... i.e. Pi day
- 18th First Space Walk 1965
- 26th Make up Your Own Holiday Day

For Sale

***1/8" (290#) & 3/16" (380#) Dark Olive
Drab Braided Cord · 100%
Polyester/Dacron Knit Braided. Nice stuff!
Tough and long lasting · UV Resistant and
Low Stretch Proudly Made in the U.S.A.!
Contact Steve WU3I at wu3i@arrl.net or
215-605-6074***

First Class Mail

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